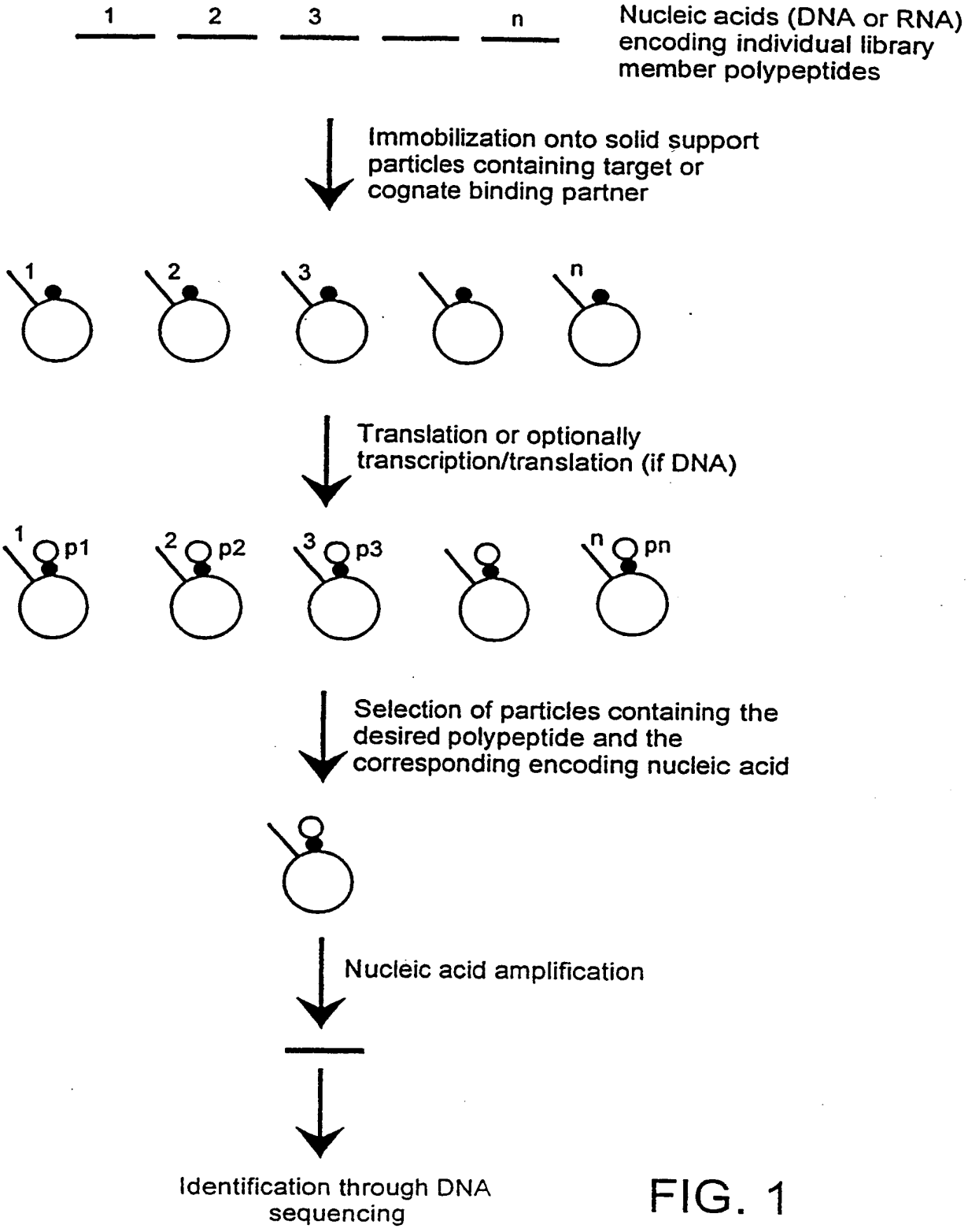

1
2
3
n
Nucleic acids (DNA or RNA) encoding individual library member polypeptides
Immobilization onto solid support particles containing target or cognate binding partner
1
2
3
n
Translation or optionally transcription/translation (if DNA)
1 p1
2 p2
3 p3
n pn
Selection of particles containing the desired polypeptide and the corresponding encoding nucleic acid
Nucleic acid amplification
Identification through DNA sequencing

FIG. 1

Immobilized DNA/Target added

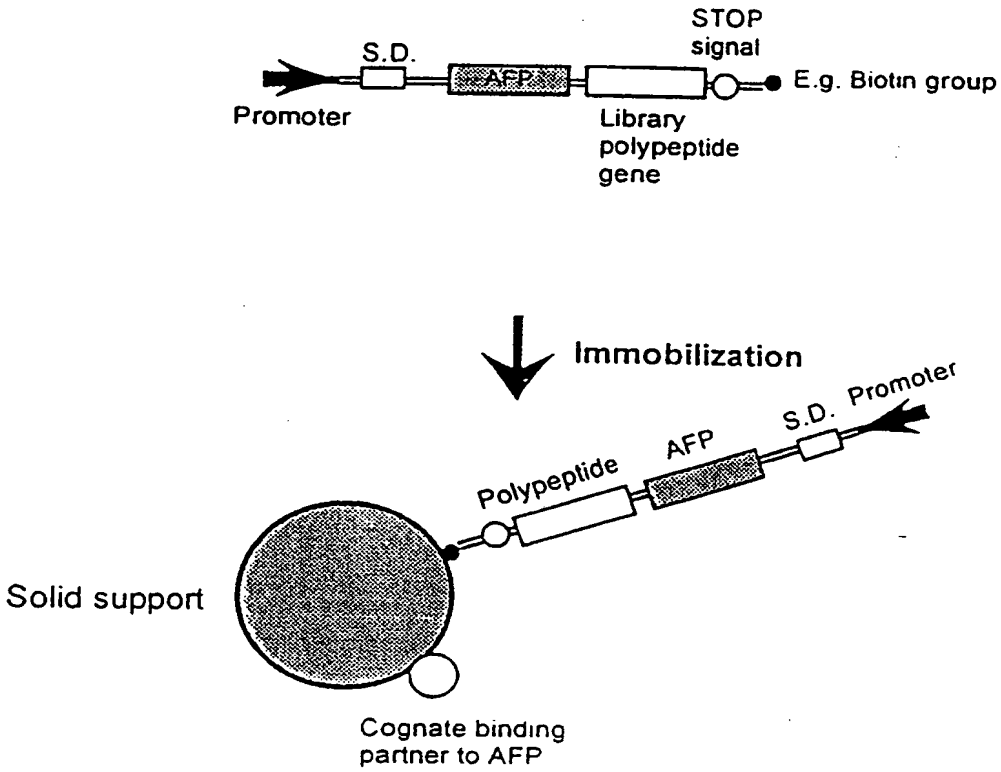


FIG. 2

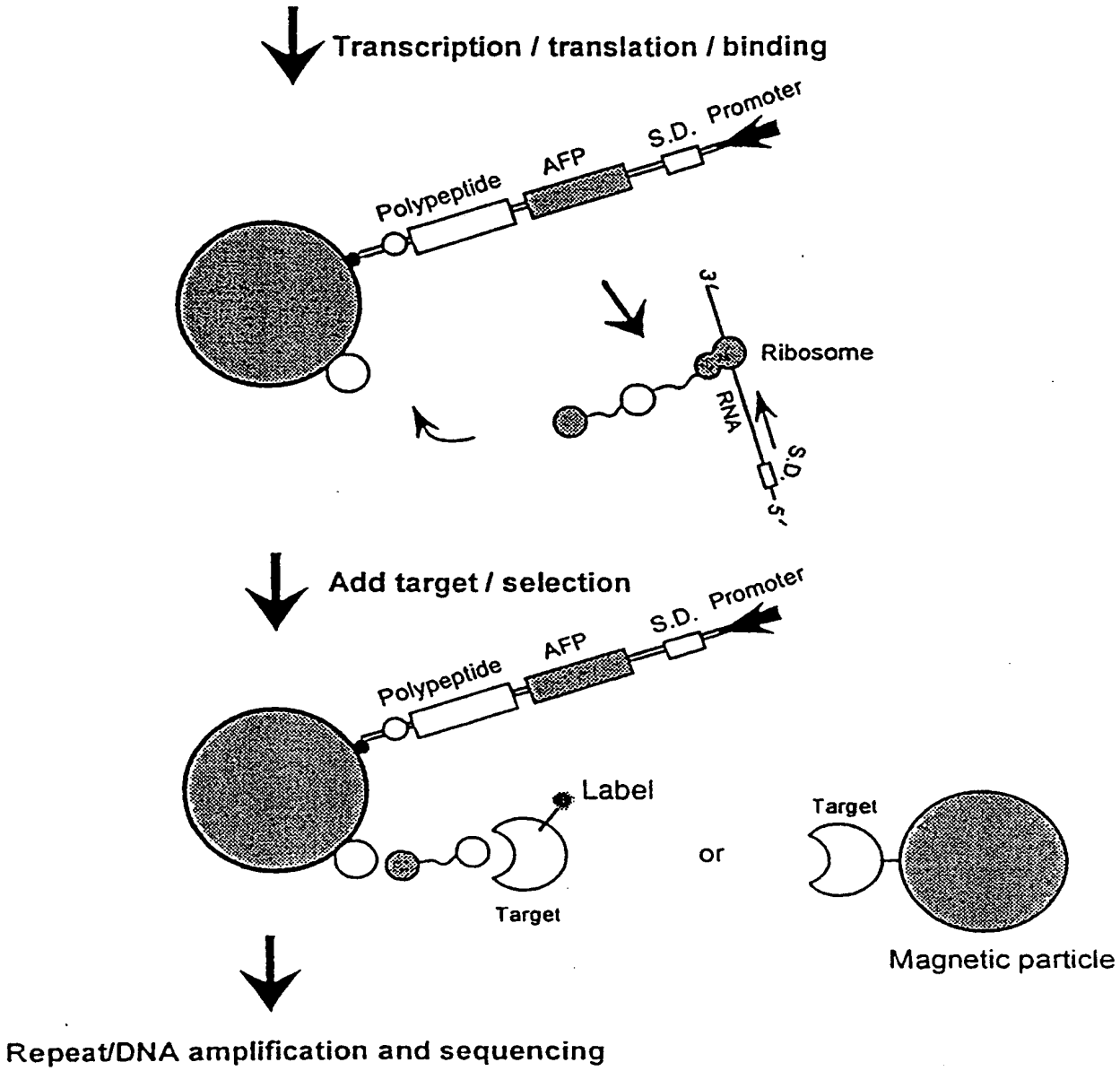

Transcription / translation / binding
Promoter
S.D.
AFP
Polypeptide
Ribosome
3'
RNA
S.D.
5'
Add target / selection
Promoter
S.D.
AFP
Polypeptide
Label
Target
or
Target
Magnetic particle
Repeat/DNA amplification and sequencing

FIG. 2CONT'D

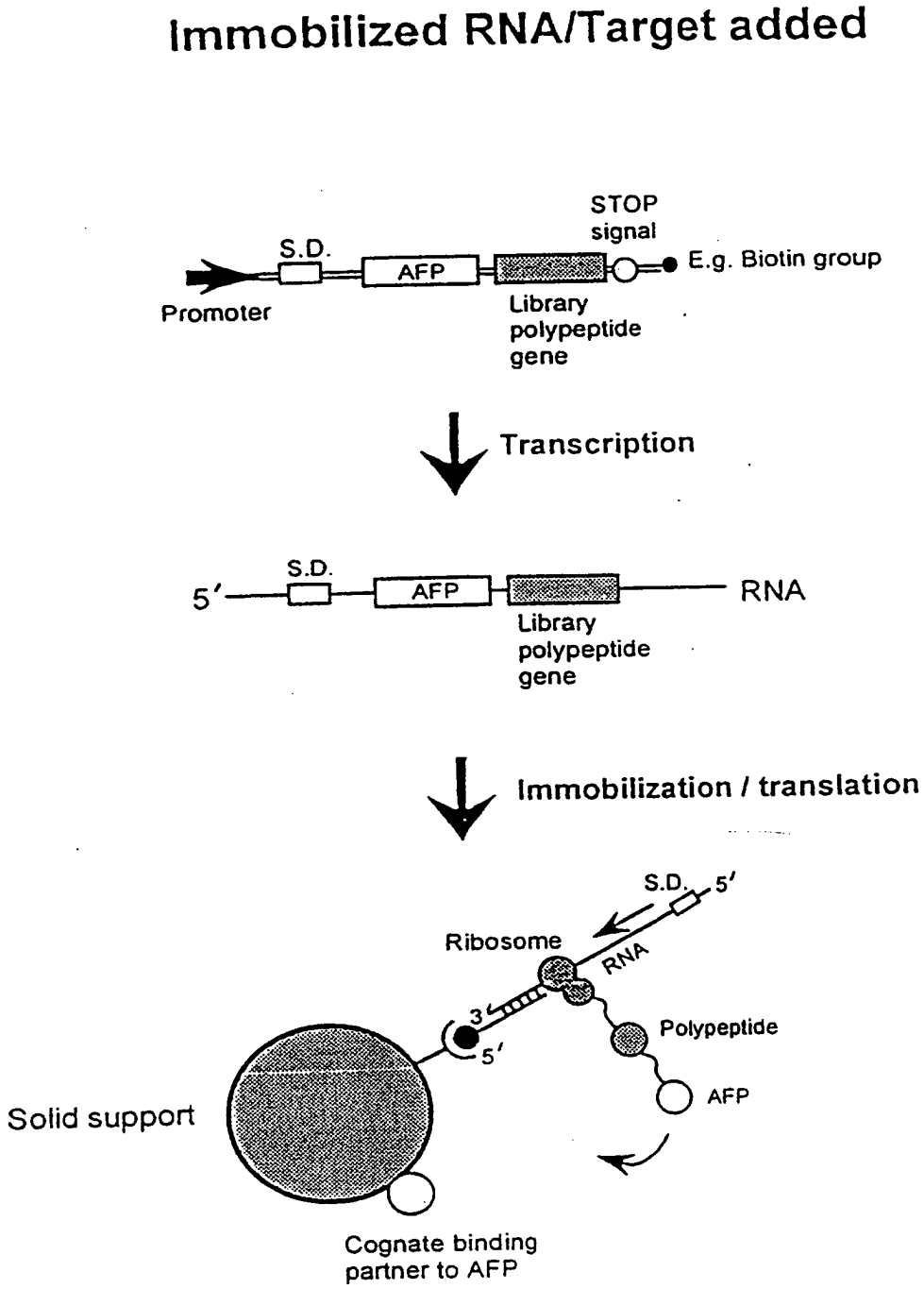

Immobilized RNA/Target added
STOP signal
S.D.
AFP
E.g. Biotin group
Promoter
Library polypeptide gene
Transcription
S.D.
5′
AFP
RNA
Library polypeptide gene
Immobilization / translation
S.D.
5′
Ribosome
RNA
3′
5′
Polypeptide
AFP
Solid support
Cognate binding partner to AFP

FIG. 3

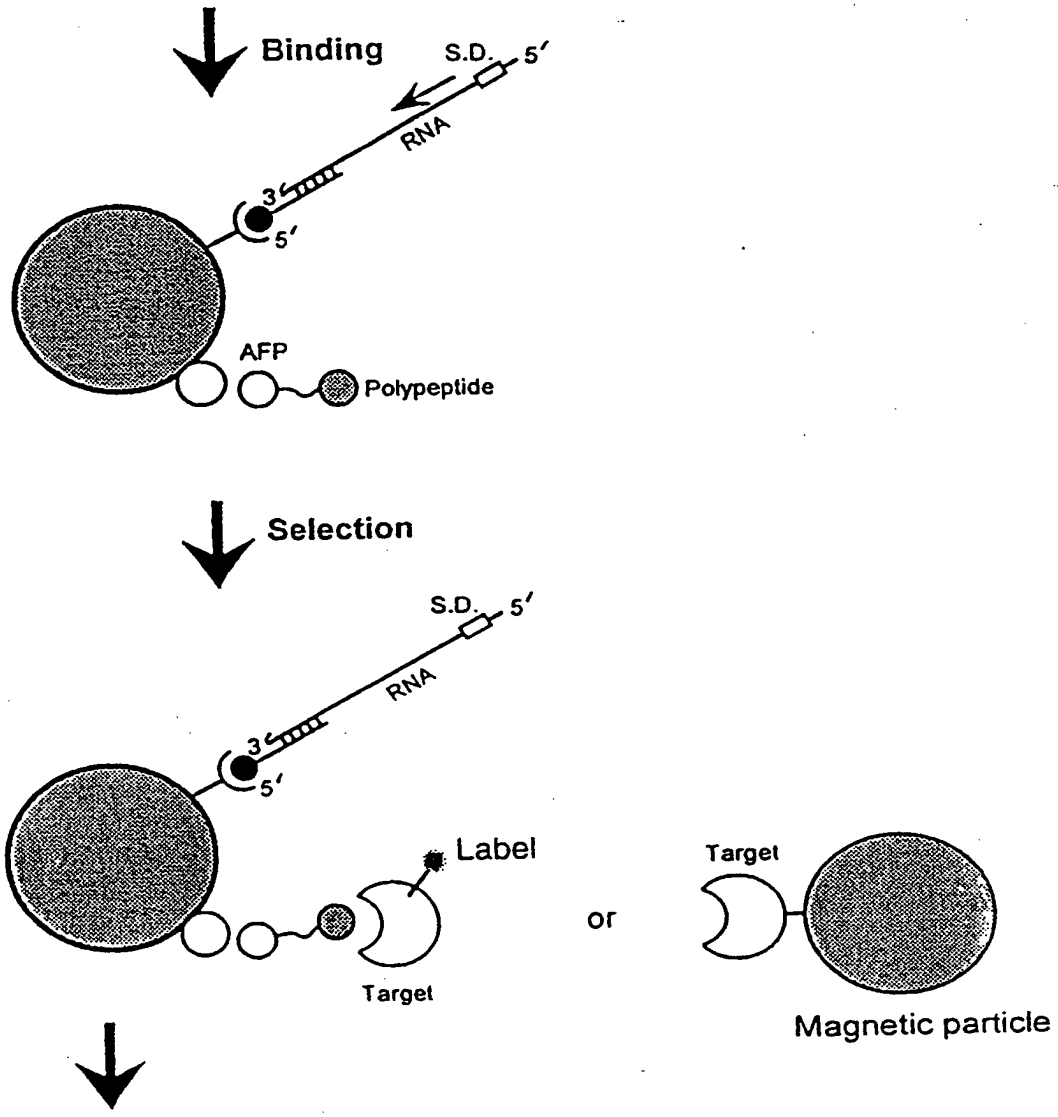

Binding
S.D.
5′
RNA
3′
5′
AFP
Polypeptide
Selection
S.D.
5′
RNA
3′
5′
Label
Target
or
Target
Magnetic particle
Reverse transcribe RNA / PCR amplification and sequencing

FIG. 3CONT'D

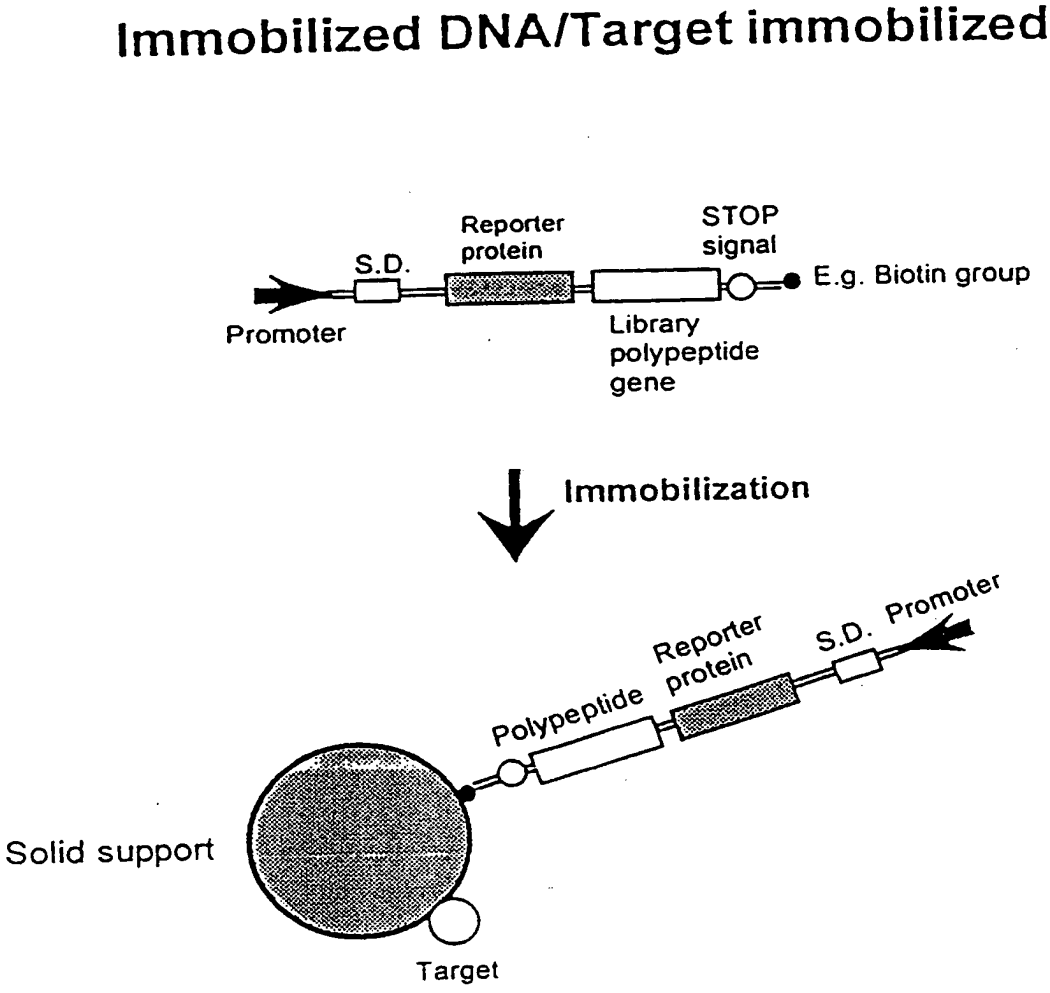

Immobilized DNA/Target immobilized
Reporter protein
STOP signal
S.D.
E.g. Biotin group
Promoter
Library polypeptide gene
Immobilization
Promoter
S.D.
Reporter protein
Polypeptide
Solid support
Target

FIG. 4

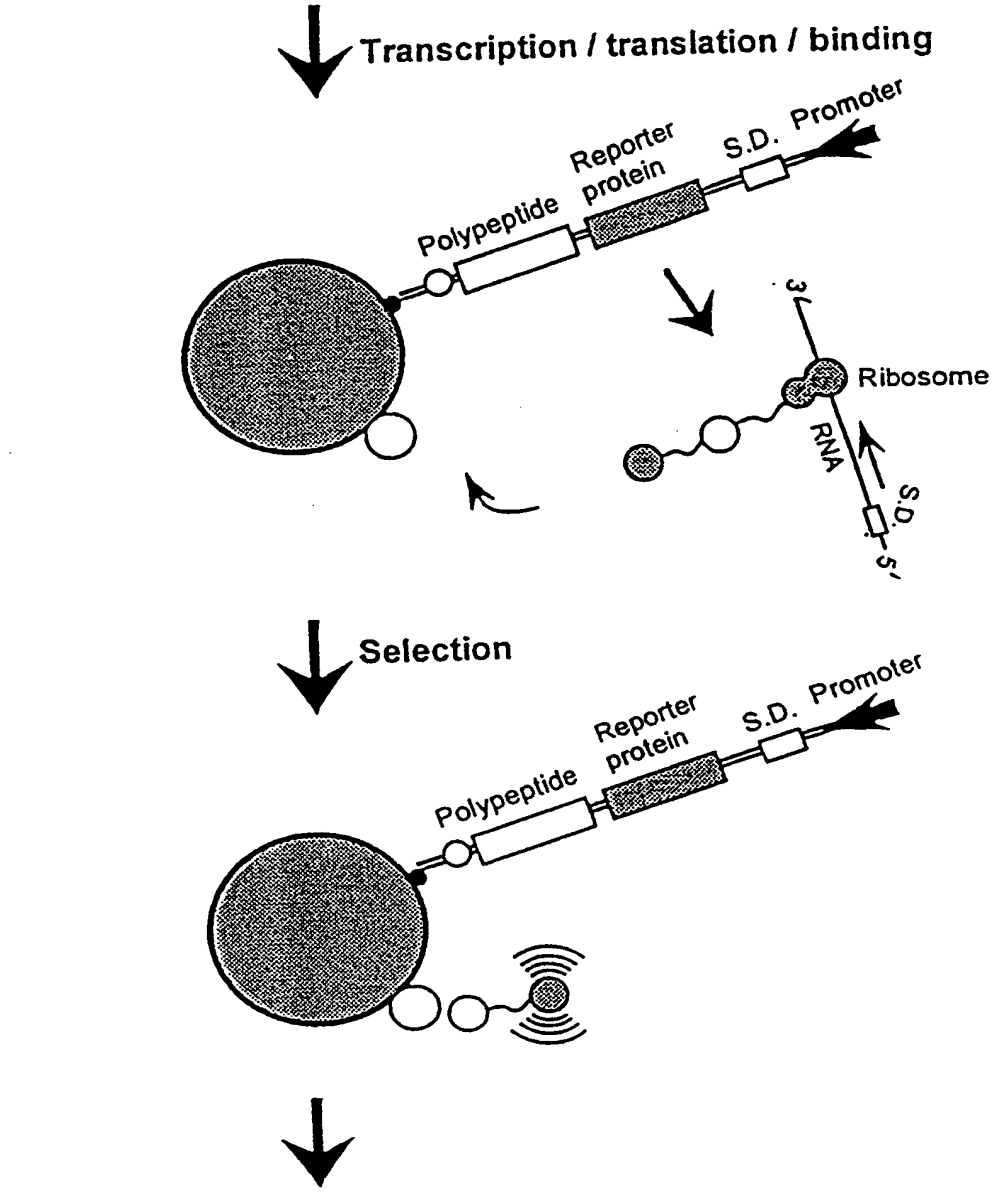

Transcription / translation / binding
Promoter
S.D.
Reporter protein
Polypeptide
3'
Ribosome
RNA
S.D.
5'
Selection
Promoter
S.D.
Reporter protein
Polypeptide
Repeat/DNA amplification and sequencing

FIG. 4CONT'D

Immobilized RNA/Target immobilized

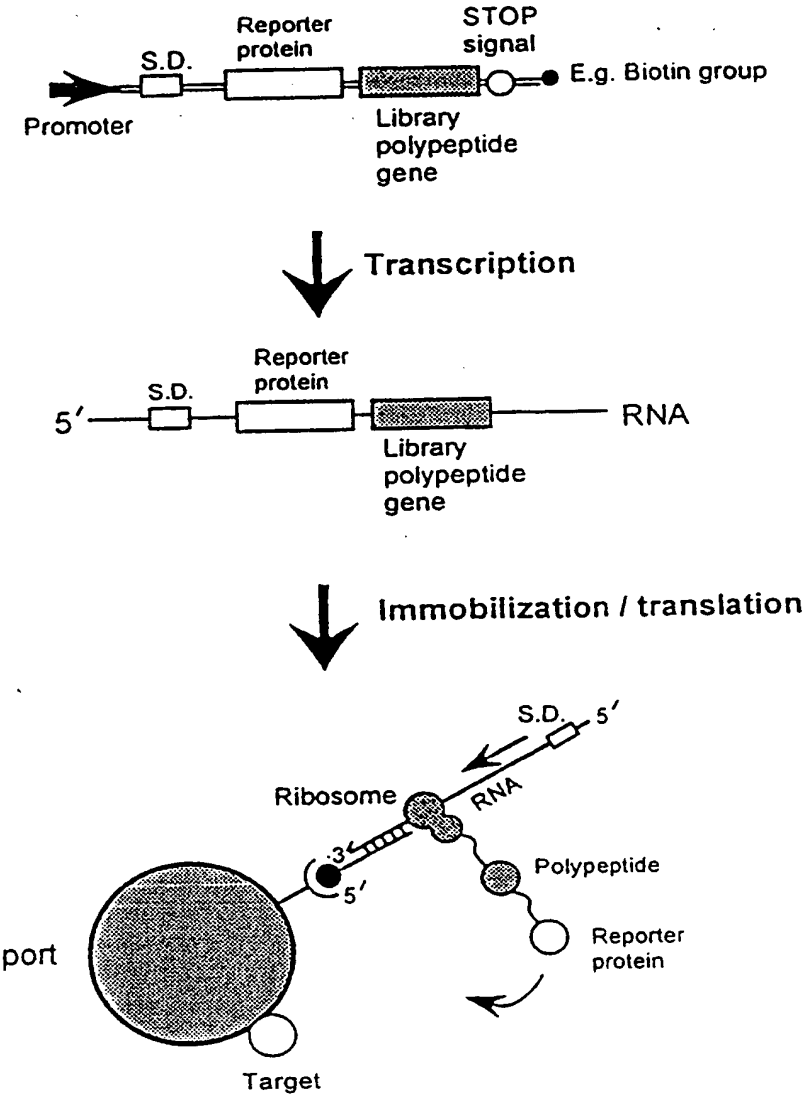
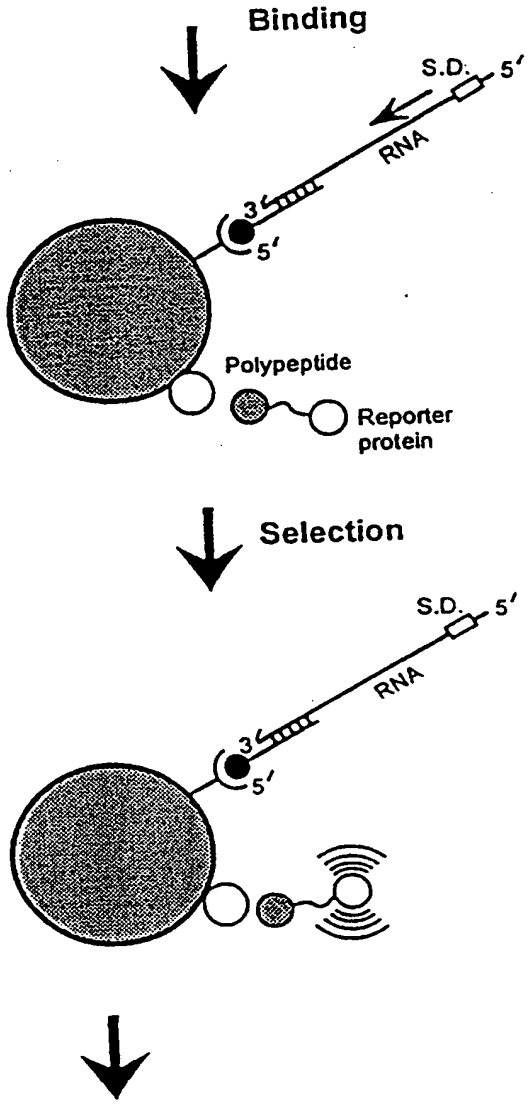


FIG. 5



Reverse transcribe RNA / PCR amplification and sequencing

FIG. 5CONT'D

Example 1.

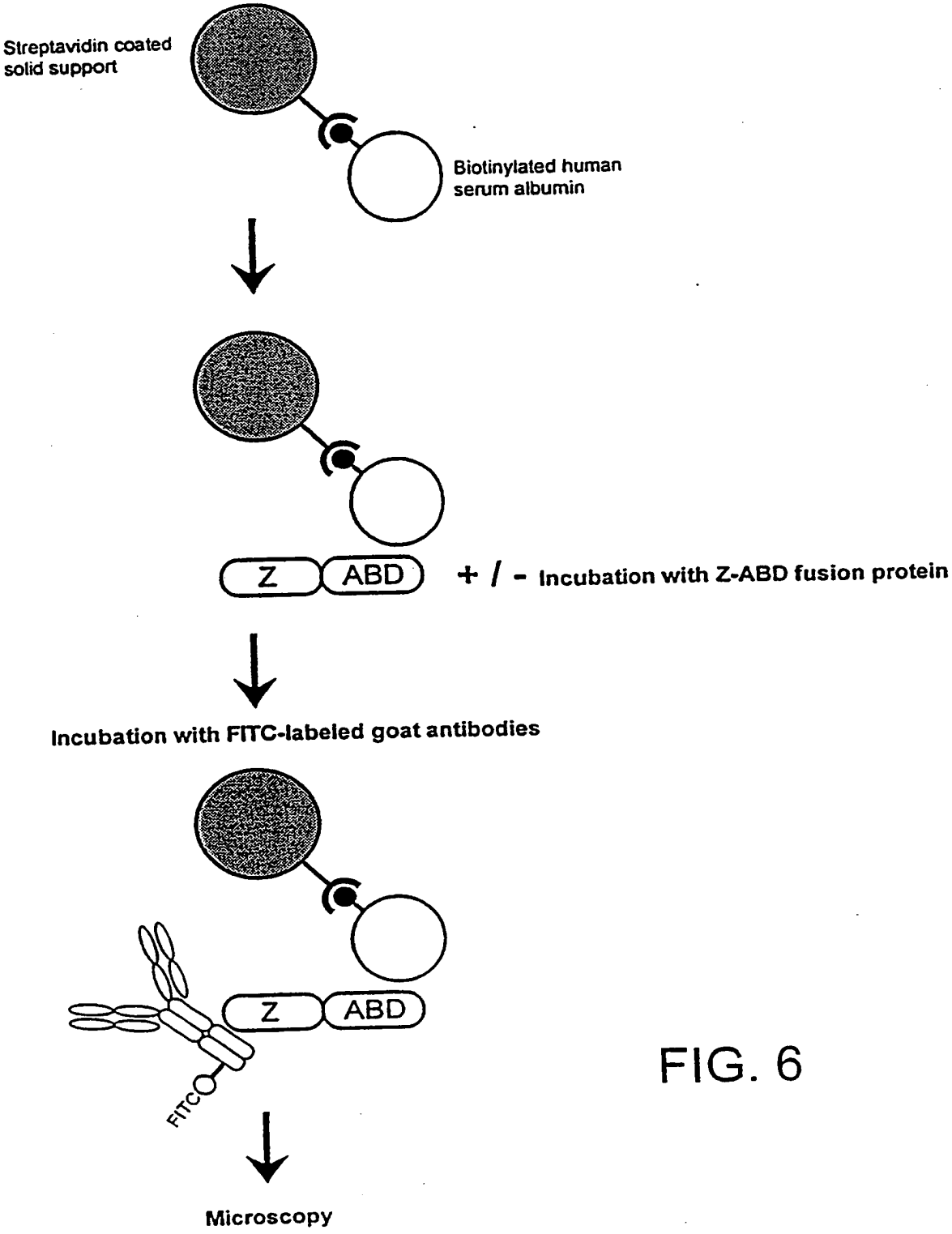
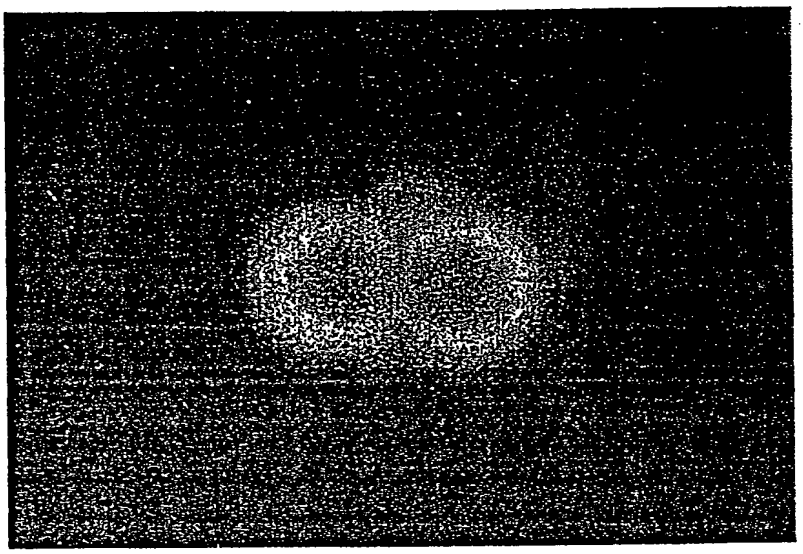


FIG. 6

A



B

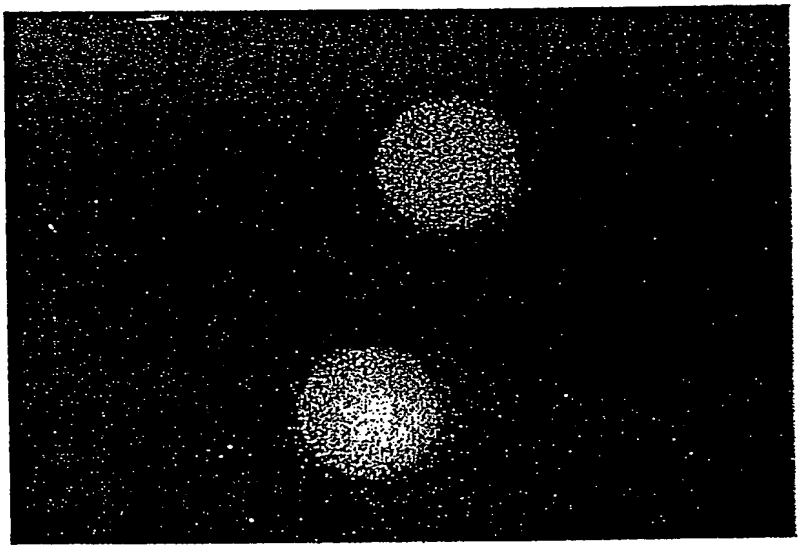


FIG. 7

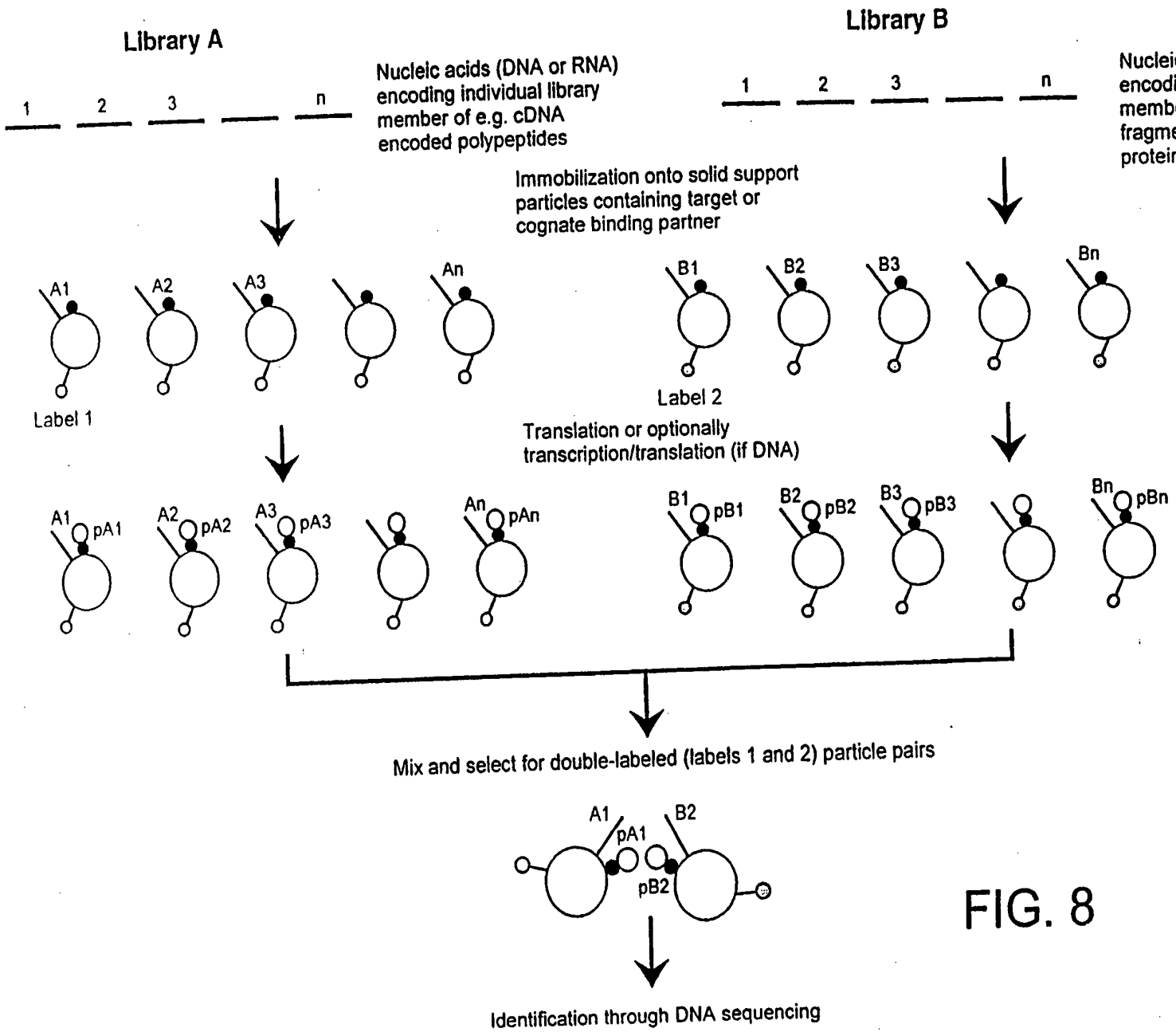
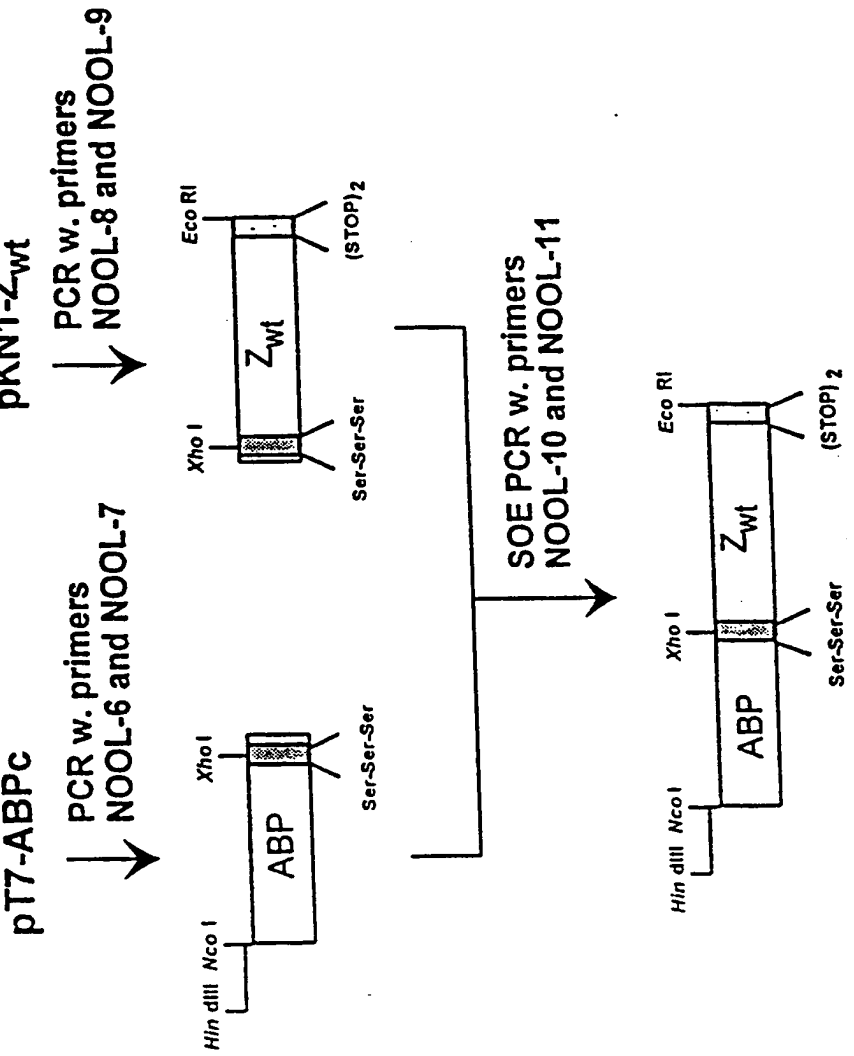


FIG. 8

FIG. 9


pT7-ABPc
PCR w. primers
NOOL-6 and NOOL-7
Hin dIII
Nco I
ABP
Xho I
Ser-Ser-Ser
pKN1-Zwt
PCR w. primers
NOOL-8 and NOOL-9
Xho I
Zwt
Eco RI
(STOP)2
Ser-Ser-Ser
SOE PCR w. primers
NOOL-10 and NOOL-11
Hin dIII
Nco I
ABP
Xho I
Zwt
Eco RI
(STOP)2
Ser-Ser-Ser

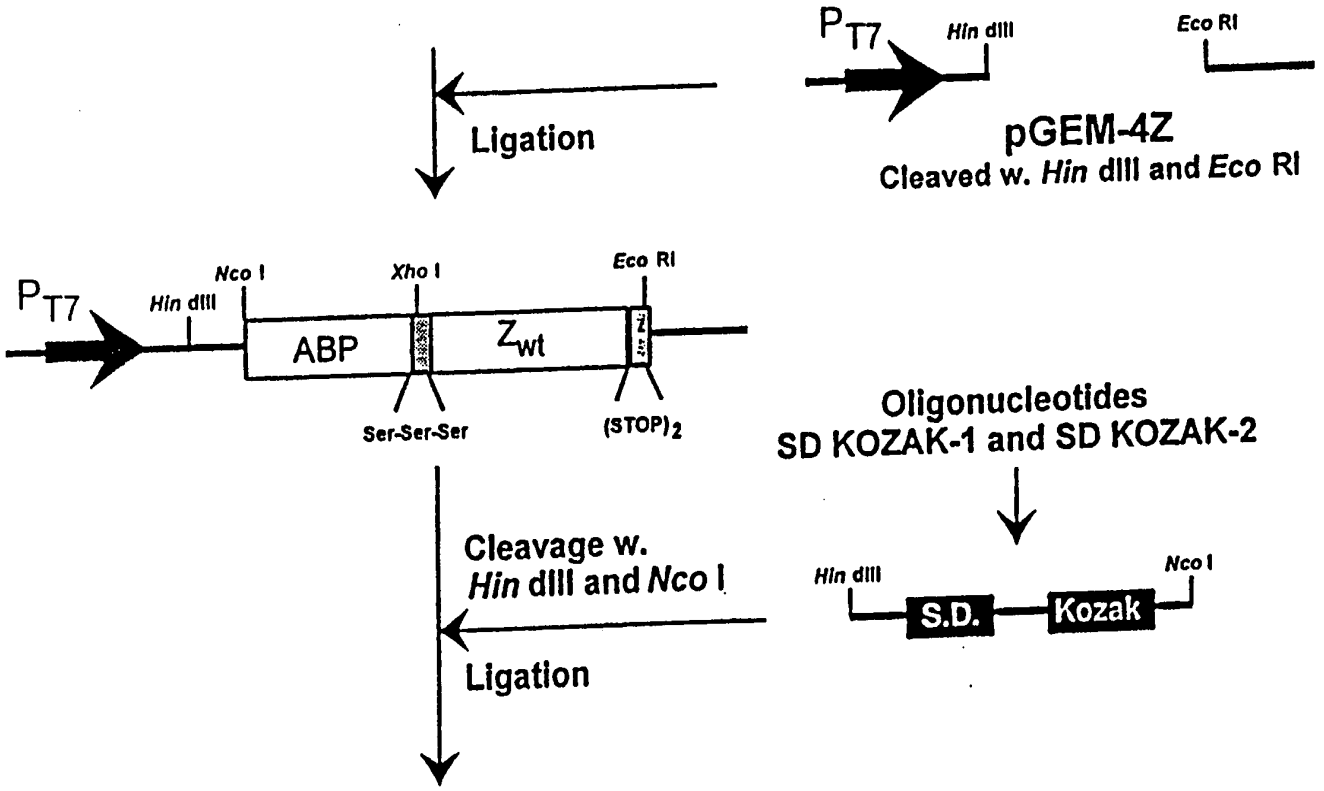

P_{T7}
Hin dIII
Eco RI
pGEM-4Z
Cleaved w. Hin dIII and Eco RI
Ligation
P_{T7}
Hin dIII
Nco I
Xho I
Eco RI
ABP
Z_{wt}
Ser-Ser-Ser
$(STOP)_2$
Oligonucleotides
SD KOZAK-1 and SD KOZAK-2
Hin dIII
Nco I
S.D.
Kozak
Cleavage w.
Hin dIII and Nco I
Ligation

FIG. 9CONT'D

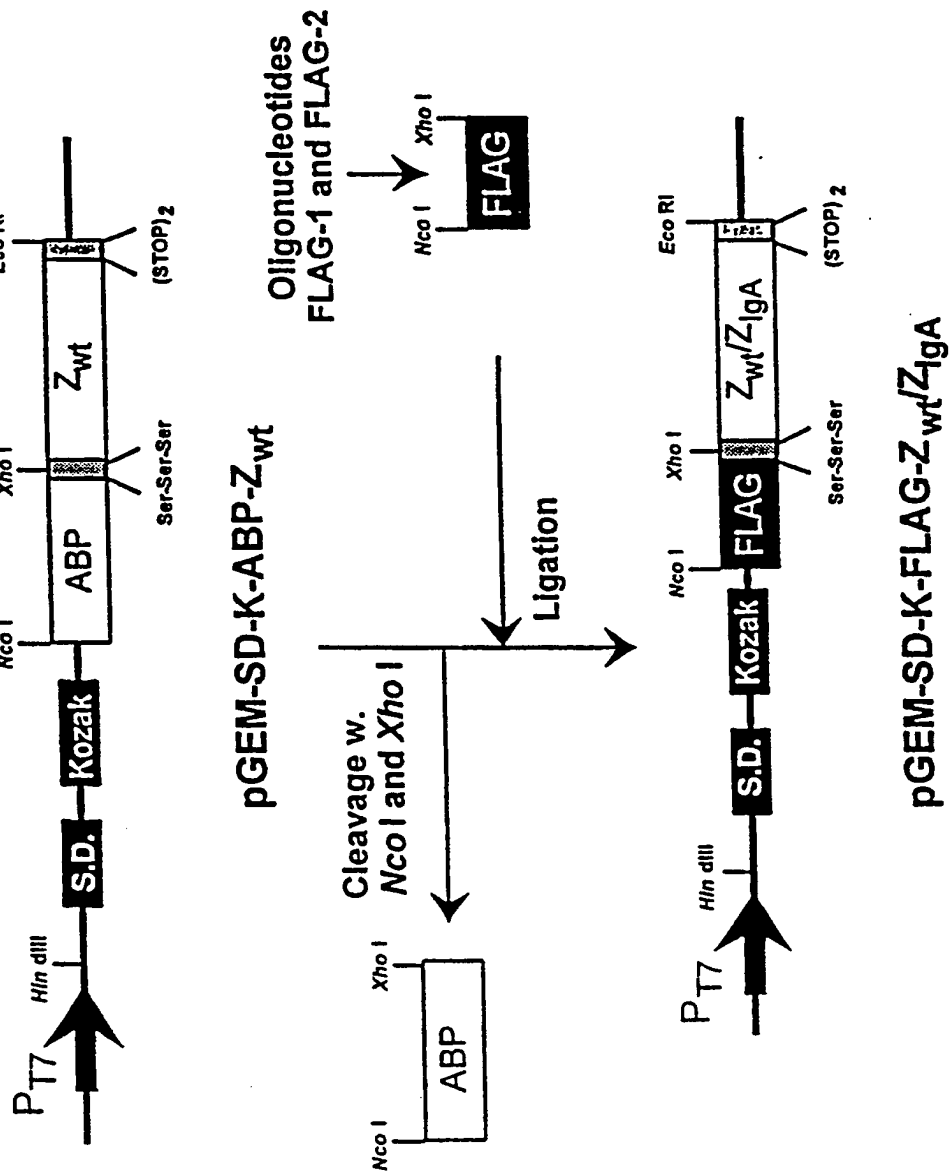

Eco RI
(STOP)2
Xho I
Ser-Ser-Ser
Nco I
ABP
Kozak
S.D.
Hin dIII
PT7
Zwt
pGEM-SD-K-ABP-Zwt
Oligonucleotides
FLAG-1 and FLAG-2
Xho I
Nco I
FLAG
Ligation
Cleavage w.
Nco I and Xho I
Xho I
Nco I
ABP
Eco RI
(STOP)2
Xho I
Ser-Ser-Ser
Nco I
FLAG
Kozak
S.D.
Hin dIII
PT7
Zwt/ZIgA
pGEM-SD-K-FLAG-Zwt/ZIgA

FIG. 9CONT'D

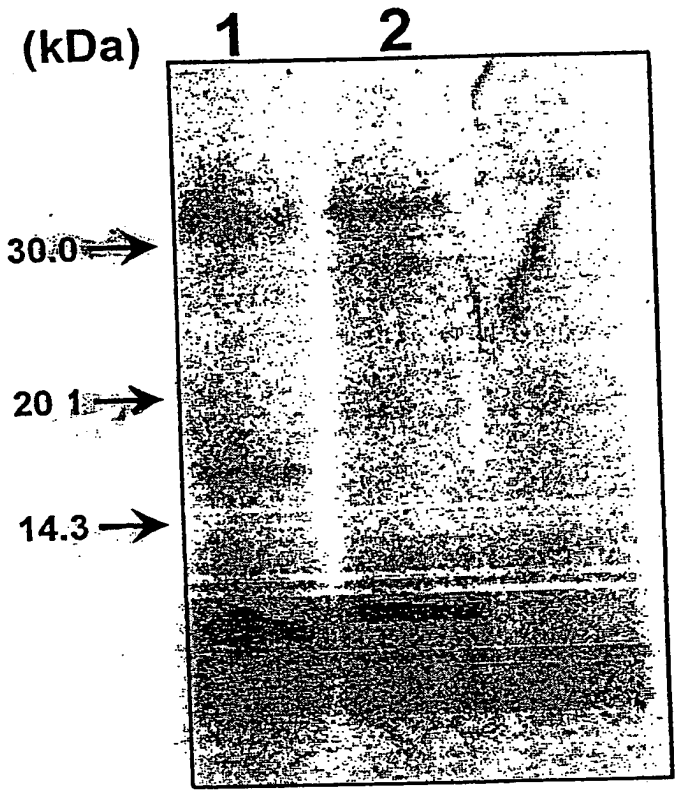


FIG. 10

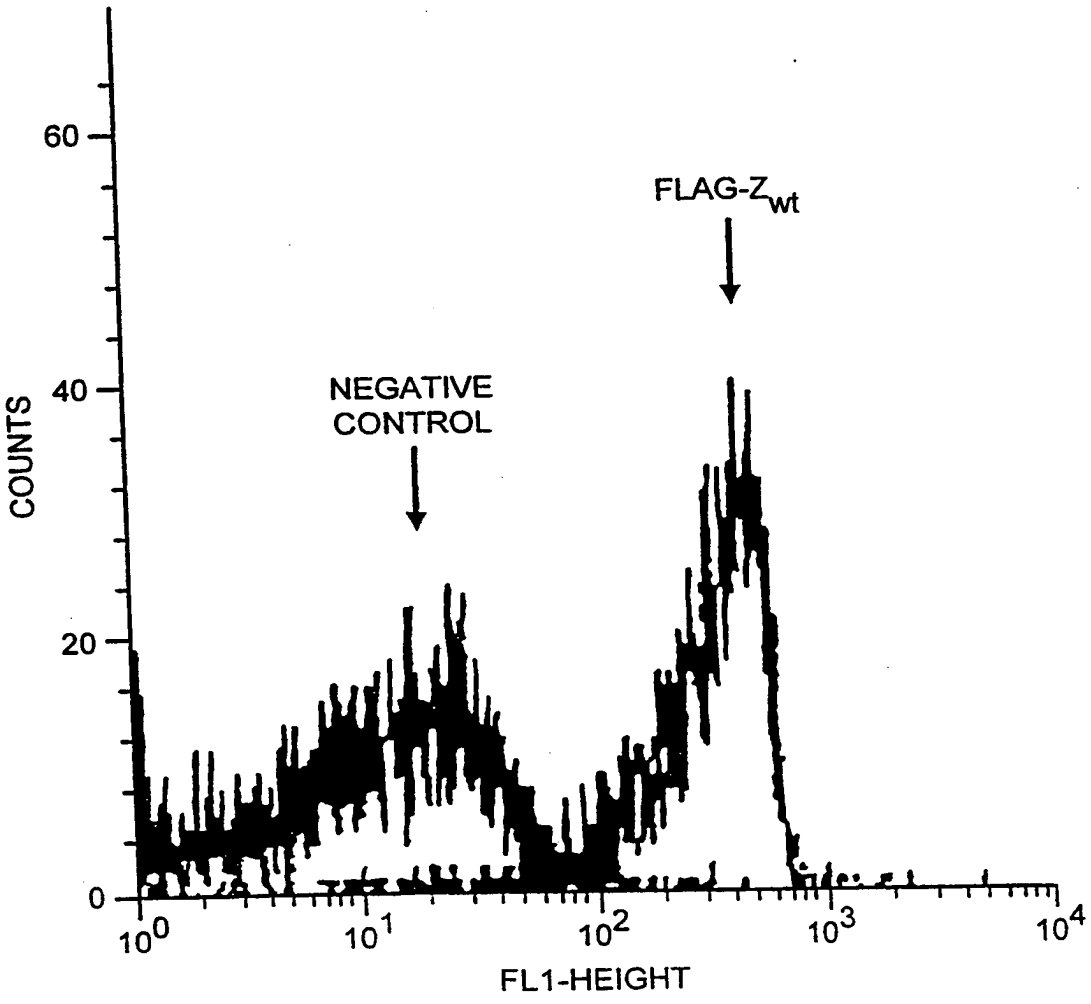

60
40
20
0
COUNTS
FLAG-Z$_{wt}$
NEGATIVE
CONTROL
10^0
10^1
10^2
10^3
10^4
FL1-HEIGHT

FIG. 11

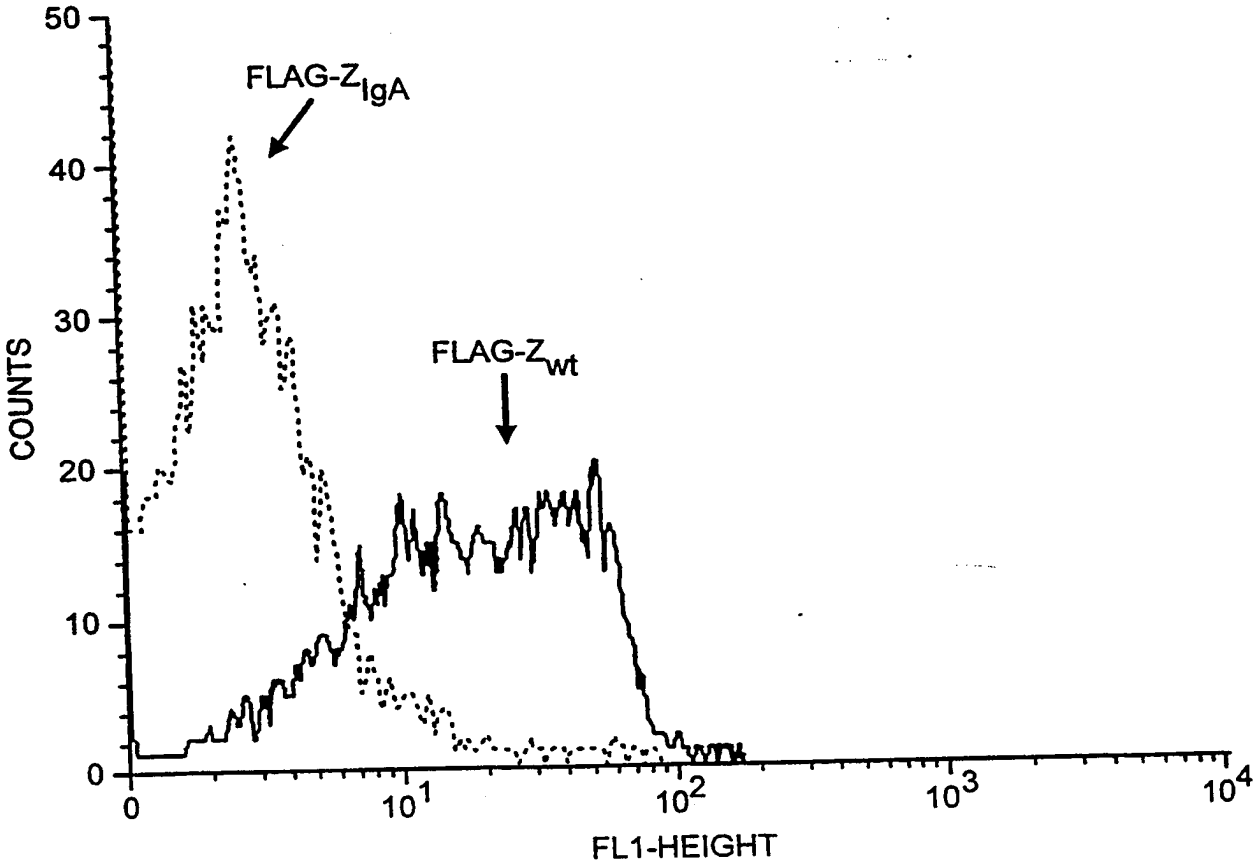

50
40
30
20
10
0
COUNTS
FLAG-Z$_{IgA}$
FLAG-Z$_{wt}$
0
10^1
10^2
10^3
10^4
FL1-HEIGHT

FIG. 12

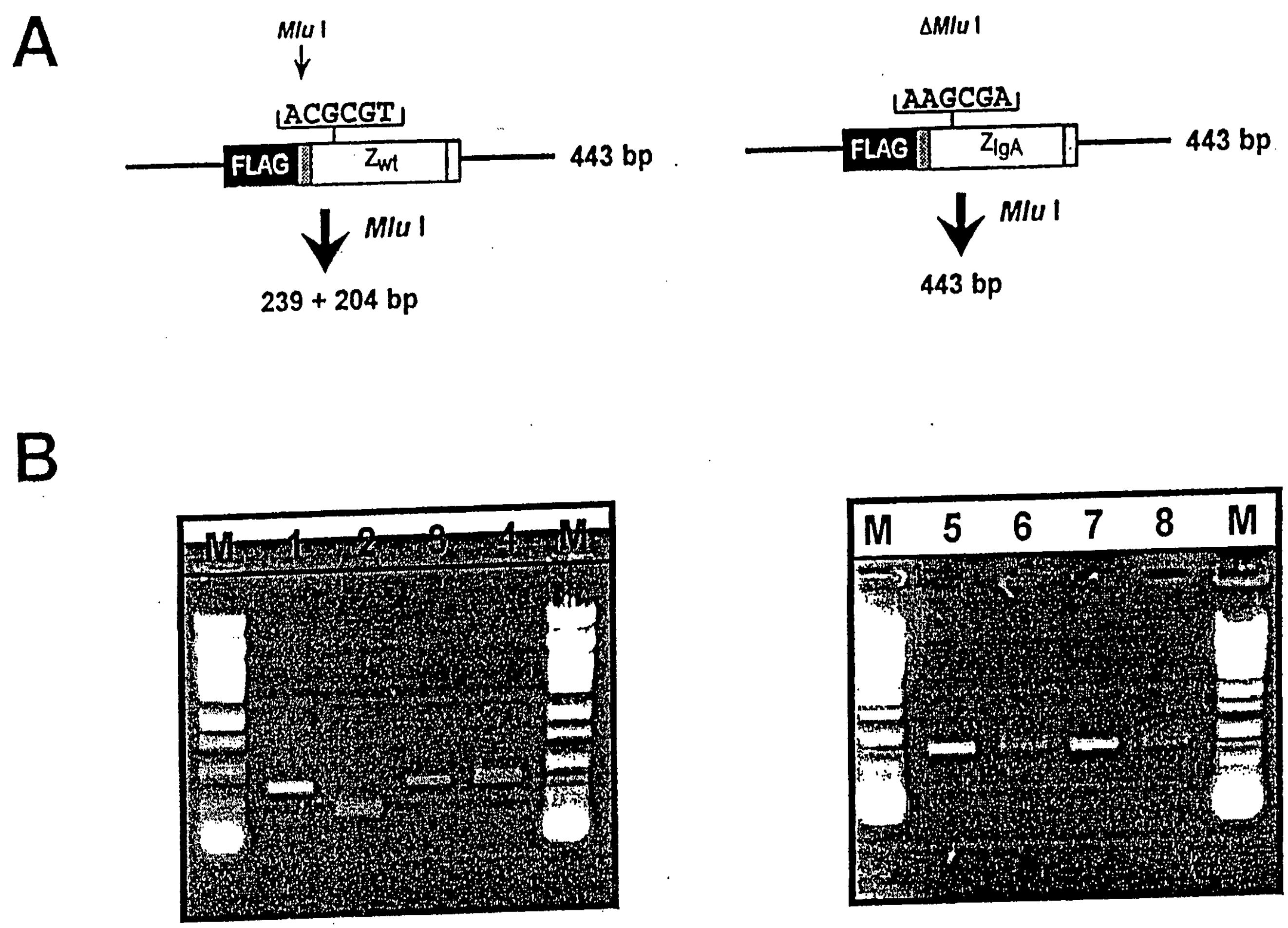
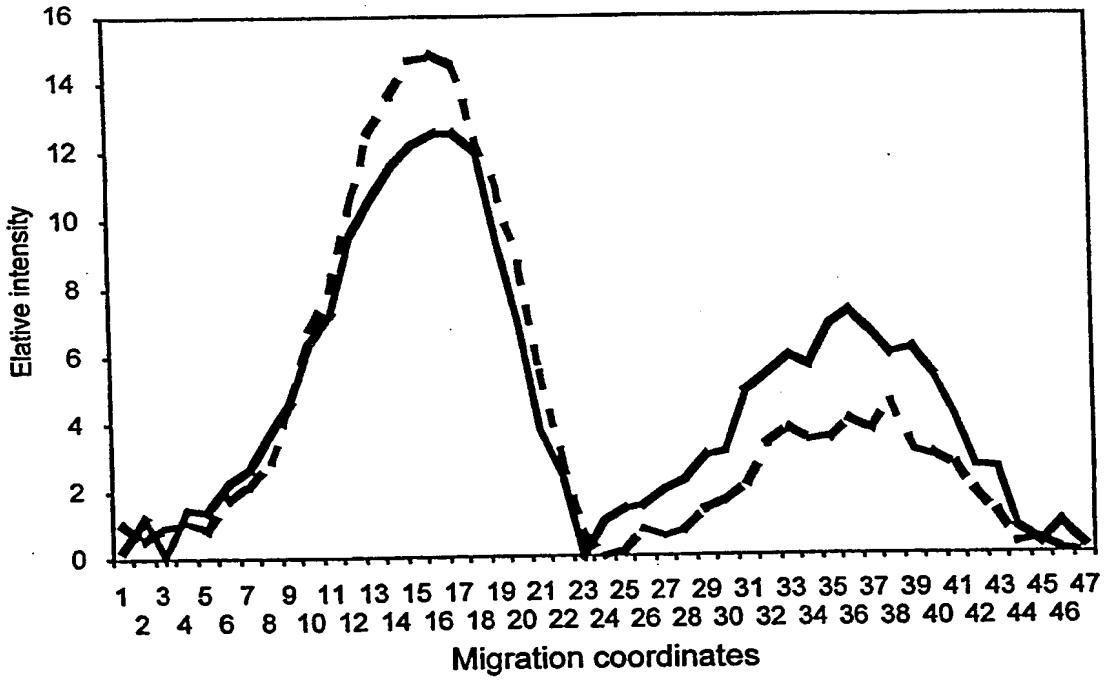


FIG. 13


16
14
12
10
8
6
4
2
0
Elative intensity
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47
2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46
Migration coordinates

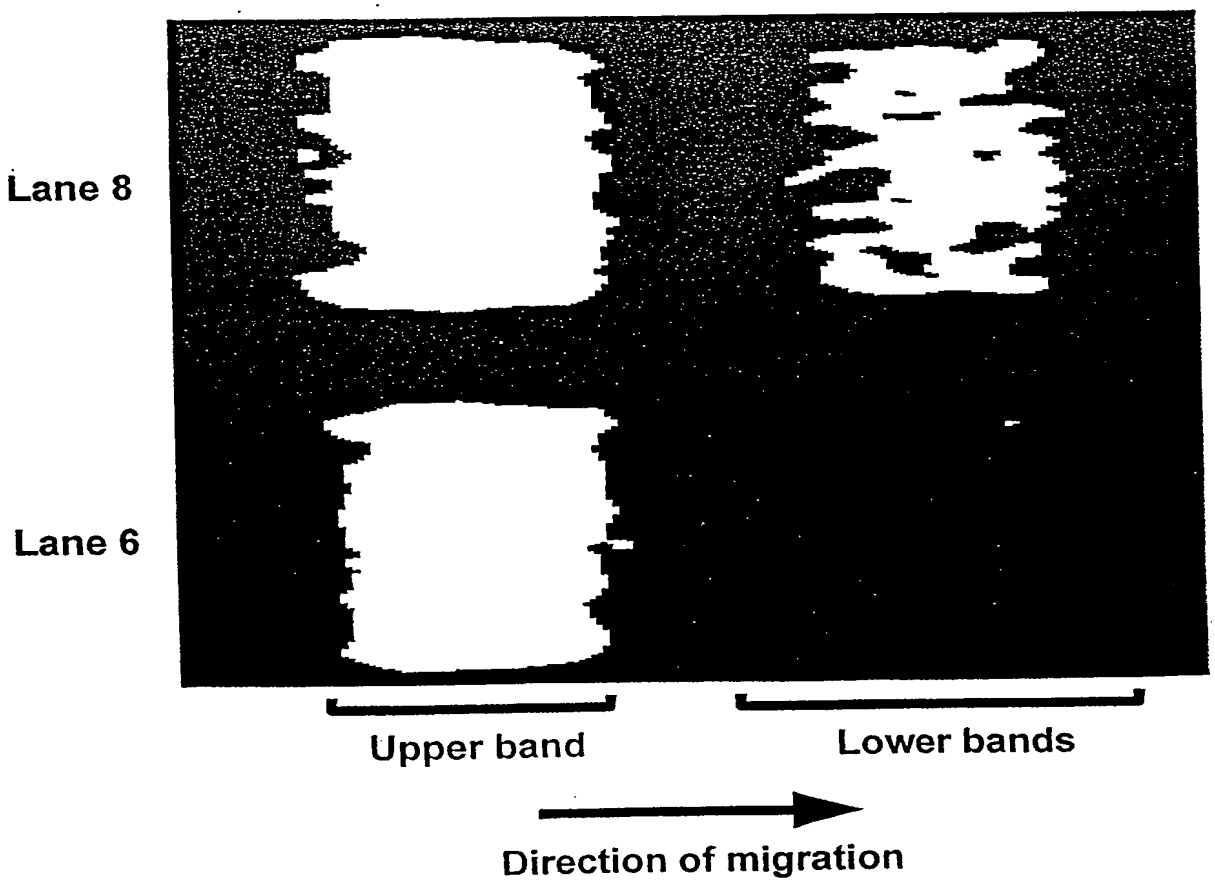

Lane 8
Lane 6
Upper band
Lower bands
Direction of migration

FIG. 14